Natural Rearing Newsletter ©

Volume 2 Issue 9 November 1997

FOR THOSE THAT CHOOSE TO THINK FOR THEMSELVES

From The Desk Of: MARINA ZACHARIAS

THE IMMUNE SYSTEM--PART 2

The immune system has many weapons to use in its war against invaders. The two main lines of cellular defense are the T Lymphocytes and the B lymphocytes (small white blood cells). Both T cells and B cells originate in the bone marrow. B cells remain in the bone marrow until they are mature, whereas the T cells are so named because they mature and/or are instructed in their duties in the thymus gland (a small organ located under the upper breastbone).

Lymphocytes can travel throughout the body, using either the blood vessels or their own system of lymphatic vessels. Like small creeks that empty into larger and larger rivers, the lymphatic vessels feed into larger and larger channels. At the base of the neck they merge into a large duct, which discharges its contents into the blood stream. The lymphatic vessels carry LYMPH, a clear fluid that bathes the body's tissues.

They can also be found in secondary lymphoid organs such as the spleen, lymph nodes, and other lymph tissues, including tonsils, the Peyer patches of the gut, and the respiratory and urinary tracts. Lymphocytes can also accumulate in the connective and epithelial tissues throughout the body.

In the last issue we provided some basic information on the B cells and their primary function (and limits). In this issue we would like to give you some basics regarding the T cells and the "Cell Mediated" immune system.

T cells contribute to the immune defenses in two major ways. Some direct and regulate the immune responses. Others are killer cells that attack cells that are infected or cancerous.

Helper-Inducer T Cells, also called helper T cells are the commanders of the immune army, and serve as the central hub of immune operations. The chief responsibility of the helper T cells is to rouse the other defender cells into motion. They interpret intelligence information and communicate with all other lymphocytes through numerous specific chemical messengers.

It is important to understand that one line of communication is directed to the B cells. As mentioned previously, the B cells do the "dirty work" of the immune system by producing antibodies. But, unlike the T cells, which are always on active duty, moving throughout the entire blood and lymphatic routes on surveillance missions, B cells do much less travelling and rest inactive in the lymph system until the T cell calls them to the site of attack. When the helper T cells recognize a virus, bacteria, etc. they stimulate B cells to make antibodies specific for that particular foreign agent. Antibodies then help to destroy the invader.

Thus much of the activity of the B cells is directly attributable to the health and activity of the T cells!

Helper T cells are long-lived and many become memory cells. Whenever they spot a future exposure to the same agent, they'll initiate an even faster and more vigorous immune response. Only a few of the B cells will become memory cells.

Suppressor T Cells keep B cells in check by inhibiting their antibody production in order to prevent over-production. Suppressor T cells also accomplish this goal by direct suppression of helper T cells.

Cytotoxic T Cells are instructed/activated by helper T cells to kill invading cells that are, for example, infected with viruses.

IN THIS ISSUE

The Immune System---Part 2
Holistic Vet Conference--1997
Mailbox
Some Things We Can Learn From A Dog

NK (Natural Killer) Cells are also created by helper T cells to kill tumor cells and probably microbial organisms. They perform their work by drilling holes in the membranes of enemy cells. Unlike B cells, natural killer cells do not need to be stimulated into action. They can recognize foreign agents and act independently; and thus, they are born or "natural" killers. Their activity is enormously augmented, however, by communication from a helper T cell that has been sensitized by previously recognizing the same specific foreign invader.

K Cells, like natural killer cells, kill foreign invaders. However, unlike NK cells they require the help of an antibody made by B cells specific for the enemy cell.

Both kinds of killer cells can slay on contact by means of a lethal burst of chemicals.

Although lymphocytes are the main line of defense utilized by the immune system, they are by no means the only types of white blood cells that make up the total picture.

Most of you will be familiar with the term "macrophage". I have referred to these before as the "garbage collectors" of the immune system. But let me get a little more technical and bring in a couple of other terms that you may run across that can cause confusion.

Phagocytes (or "cell eaters") are large white cells that can swallow and digest microbes and other foreign particles. **Monocytes** are phagocytes that circulate in the blood. When monocytes migrate into tissues, they develop into **Macrophages**, or "big eaters". Kuppfer cells in the liver are an example of a macrophage.

Activated by sensitized helper T cells, circulating monocytes are converted to macrophages, which are central in triggering the immune response. The macrophages engulf the foreign agent and highlight their antibodies so the helper T cell can quickly identify the invaders. Once the antibodies are marked by the macrophages as foreign invaders, helper T cells determine the immune response needed to neutralize or destroy the body's invader. Thus, the macrophage serves as a scout, providing the intelligence information with which the helper T cell determines subsequent immune response.

So our old friend the macrophage plays many roles. As scavengers, they rid the body of worn out cells and other debris. They display bits of foreign antigen in a way that draws attention of matching lymphocytes. And they churn out an amazing variety of powerful cytokines, known as **monokines**, which are vital to the immune response.

The battle then goes into full gear. Macrophages secrete more chemicals, or **lymphokines** with names like **gamma-interferon, interleukin-3, Alpha-interferon,** etc. and a stimulating factor for **granulocytes** in order to eliminate the invading threat. These substances in turn alter and strengthen the surrounding macrophages, enhancing their ability to unleash a biochemical attack to kill the microorganism.

Granulocytes are white blood cells that contain granules filled with potent chemicals that allow them to destroy the enemy. Some of these chemicals such as histamine also contribute to inflammation and allergy. One type of granulocyte, the **neutrophil**, is also a phagocyte; it uses its prepackaged chemicals to degrade the microbes it ingests. Neutrophiles are summoned to sites of inflammation and infection. **Eosinophils** and **Basophils** are granulocytes that "degranulate", spraying their chemicals into harmful cells or microbes nearby. Eosinophils congregate particularly at sites of allergic and parasitic reactions. They release enzymes to relieve the biochemical cause of allergy attacks. Basophils are found throughout the blood stream and at sites of inflammation.

Mast Cells are a twin of the basophil, except they are not a blood circulating cell. They are found in the lungs, skin, tongue, and linings of the nose and intestinal tract. They play an important role in the symptoms of allergy.

By now you are able to truly appreciate the complexity and intelligence of the immune system. It's not important to remember all the names you have just read, but it is important (for those that choose to think for themselves) to realize that the concept of a "strong" or "weak" immune system involves a great deal more than simply vaccinating.

Let me summarize what we have covered so far.

- The bone marrow and thymus are the main organs of the immune system.
- Helper T lymphocytes are the hub of operations, serving as both intelligence officers and battle commanders, communicating to and enabling other white cells of the immune system to perform their various combat tasks. Such communications are delivered in the form of the various chemical messengers--lymphokines--interleukin-2, gamma-interferon, colony stimulating factors, and others.
- Macrophages primarily issue the call to battle in their role as scouts; then they are promoted to elite battalions. The helper T cell commanders, armed with the intelligence information gathered by the scouts, can now recognize these foreign antigens and decide what lymphokines to secrete. This determines which branch of the immune system will be engaged and/or enhanced.
- Under helper T cell direction, cytotoxic T cells, NK cells, macrophages, and B cells all perform their various combat tasks.
- Humoral (antibody B cell mediated) immunity is generally considered a separate arm of the immune system and viewed as separate from cellular/T cell immunity. Technically, however, antibodies are not separate since **B cells also depend upon communications from helper T cells** to perform their task of producing antigen-specific antibodies. Another factor that diminishes their separateness is the fact that when these antibodies bind to or coat foreign agents they make it possible for some components of the cellular immunity system to function effectively.

Nothing serves as diligently in the war against disease as the skin that covers our bodies. Although our skin is not inherently part of what we consider to be the immune system organs, our outer covering **plus**--the epithelial linings of the mouth and gastrointestinal tract; the nostrils, sinuses, bronchials, and lungs, the respiratory tract; the genitourinary tract, and the conjunctiva of the eyes--all serve as primary barriers to infection.

In a state of health, these rapidly replicating cells of our skin and the linings of our various tracts prevent attachment and penetration by infectious agents, primarily by secreting mucus (a protective agent that lines cells), secretory IgA (which helps sequester foreign agents), and lysozymes (enzymes that actually digest foreign organisms).

As always, the "moral" of the troops can play an important role in this mans army. Keep in mind that our thoughts and emotional reactions exert an enormous influence over our immune system through the network of nerve fibers from the brain and spinal cord as well as the "neuropeptides" secreted into the bloodstream. The central and autonomic nervous systems communicate directly with the organs of the immune system. Therefore, what we think and feel and believe has a powerful ability to affect the function and size of the thymus gland, lymphocyte counts and ratios, lymphocyte function, and lymphokines and antibody secretions.

There are a multitude of studies that have clearly demonstrated that stress, personality, attitude and emotion are causative factors in many disease. Reaction to stress is entirely individual, reinforcing the fact that people and animals differ significantly in their perception and response to various events. The variations in response help account for the wide diversity of stress-induced illnesses.

Stress causes increases in the adrenal gland hormones including corticosteroids and catecholamines. Among other things, these hormones **inhibit** white blood cells and **cause the thymus to shrink!** This leads to significant suppression of the immune function, leaving the host susceptible to infections, cancer and other illnesses. The level of immune suppression is usually proportional to the level of stress.

For those of us that breed and show our animals, we must realize that we place a higher level of stress on them than the majority of pet owners. Thus we have the responsibility of ensuring that we also provide them with the means and ability to optimize their immune system.

If we are to strengthen the immune system we must consider what will bolster lymphocyte and other white cell counts, and their critical secretions, such as interferon and interleukins, and antibody levels. We must consider what will repair and maintain the integrity of the skin and mucosal epithelial linings.

Obviously we must address the nutritional foundations for maintenance, balance, and enhancement of the immune functions. We will get into this in our next issue.

HOLISTIC VET CONFERENCE--1997

This year's conference was held in Burlington, Vermont and was well attended. Before getting into the report on the holistic conference, I do have one piece of news to pass along from the orthodox International Veterinarian Vaccines and Diagnostic Conference of July 1997. They are now recommending vaccination every three years (instead of annual boosters) and checking titers in-between. Puppy shots should not be given under 8 weeks old. Comment from Dr Jean Dodds:"I feel like a grandmother. I've been saying that for 25 years".

For those of you that are still forced to deal with an unsympathetic orthodox vet that insists on annual boosters, ask them if they are aware of this conference and the updated vaccination protocol. At last we have a step in the right direction made by "officialdom".

As usual it is difficult to condense three days of lectures and a couple of hundred pages of notes into the limited space available in our newsletter.

Matthew Wood (Note: Mathew is not a DVM but is an expert herbalist). He was ably assisted by Cheryl Schwartz, D.V.M.

They provided us with a solid, hands on, talk about the practical applications of herbalism in every day veterinary practice. Rather than lecturing on organic chemistry, biomedical evidence or theory, they got into the nitty-gritty of what works, what doesn't and a few good sense tips on when not to use otherwise helpful herbs. Here is a small sample of their recommendations:

- **Plantain** (Plantago majus). The most common herb in the yard, second to dandelion. A fine first aid for wounds. Used both topically and internally. Draws infections out. Consider for gum abscess, bite swelling, pain. Use for all warts. 1/4 to 1/2 tsp. Orally in food. TID (3 times daily).
- **Comfrey** (Symphytum sp.). For dry foot pads, he suggests making a poultice of this herb to help close any splits or wounds.
- **Goldenseal** (Hydrastis canadensis). Exercise some caution when using this herb. It seals wounds including any pus or dirt that may still be in the wound. Great for torn discs and acute dysentery. Good ulcer remedy. Should only be used short term as it kills microflora in the gut. 1/4 to 3/4 tsp. TID orally.
- **Arnica.** An ever popular bruise remedy; external use only unless in homeopathic form. He suggests not to use it pre-surgery as often more anesthetic will be required.
- **Echinacea.** A powerful antiseptic and antibacterial, also cooling. Useful for long grade, septic fever, wound fever. Echinacea tincture should not be given straight to cats. Dilute approx. 20 drops into 1 oz. of water to administer to cats. For feline leukemia, use 7 to 10 drops of tincture in 1 oz. of water--give once daily.
- **Elder flowers** (Sambucus canadensis). Good tonic for newborns. Helps to oxygenate. Lowers fever. Also good for kennel cough.

They covered many, many other herbs for wounds, fevers, diaphoretics, nerves, organs, lymphatic system, muscular and skeletal system, skin, etc. A well-rounded presentation!

David McCluggage, D.V.M.,C.V.A.

Dr. McCluggage provided the audience with a great deal of information on applied clinical nutrition. Again, the emphasis was on practical usage of clinically effective protocols.

In discussing the essential fatty acids (required in the diet as they can not be produced in the body), he pointed out that in general the omega 6 fatty acids enhance inflammation and the omega 3 fatty acids reduce the inflammatory response. Thus omega 3 should be dominantly used in cancer cases or where there is lots of inflammation. Benefits of omega 3 fatty acids include: inhibition of tumor development and tumor metastasis; lowering of cholesterol levels, modifying platelet and vascular function, heart disease therapy, improving arthritis, relief of allergic symptoms, excema and psoriasis.

One of the more frustrating entities in veterinary medicine is chronic diarrhea. There can be such a broad variety of underlying causes, that the practitioner must be careful to treat each case as an individual patient and employ an extensive gathering of historical information, environmental analysis, physical exam findings, appropriate diagnostic test, etc. Most cases of chronic diarrhea have an inappropriate gastrointestinal inflammatory response.

So the first step taken for each case is an evaluation of the patient's history. If multiple courses of anti-microbial agents have been employed, one should consider re-inoculating the gut flora. Antibiotics disrupt the normal intestinal micro flora, often producing dysbiosis, so products that strengthen and re-inoculate the internal tract may be needed. **Highly processed foods and fatty, chemical laden foods can cause the same type of damage.**

The second step is to determine if there are microbial organisms that need to be removed from the patient. He went on to list a number of products that are very effective for each use as anti-fungal, anti-bacterial, anti-viral, anti-protozoal /parasite agents.

Next the clinician needs to repair intestinal damage. This can be done using a variety of different products that include; fatty acid supplementation, anti-inflammatory products, antioxidants, and regenerating products.

Of course, we should also provide support for the detoxification process.

He pointed out that it is rare that any patient receives nutraceuticals alone. Most patients receive acupuncture, homeopathy and/or Traditional Chinese Herbal therapies in addition to nutraceutical therapies. His success with a combination of therapies has allowed him to eliminate the use of pharmaceutical antibiotics and antimicrobials in almost all situations.

Dr. McCluggage is another example of a veterinarian that has taken the time to learn other modalities over and above his D.V.M. education. Except for extreme emergencies, he is now able to "just say no" to drugs. We need more like him! (4)

W. Jean Dodds, D.V.M.

Wow! What can I say about Dr. Dodds that hasn't been said before. If there is anyone that claims there is no "science" in holistic veterinarian medicine, I dare him to attend one of Dr. Dodds lectures and repeat the claim! If I was ever in danger of getting a "swelled head" in thinking that I may have a good grasp of holistic therapies, all I need to do is listen to one of her talks to deflate any unwarranted opinion of my own knowledge. We were privileged to have a double session with her, covering "What's New in Thyroid Disease?" and "Holistic Approaches for Immune-Mediated Disease".

As the thyroid gland regulates metabolism of all body cellular functions, reduced thyroid function leading to hypothyroidism in dogs and horses, or increased thyroid output causing hyperthyroidism in cats, can produce a wide range of clinical manifestations. Unfortunately, many of these clinical signs mimic other conditions so that recognition of an underlying thyroid problem may go unnoticed.

A recent AKC survey indicated that hypothyroidism was the most common health problem of concern to the majority of purebred dog fanciers. **However, confusion remains over which diagnostic tests are the most specific and sensitive for identifying thyroid dysfunction especially in its early stages.** As you know, the earlier we can discover the problem, the easier it is to treat or at least manage the case. What you may not know, is that the onset of thyroid disease is occurring in younger and younger animals (some right after puberty). A lot of this can be blamed on "pet overload" (i.e. toxins, heartworm medication, flea program, vaccinations, etc.). Companies simply do not test animals for the combined effects of all these other factors.

Considering the heritable nature of autoimmune thyroiditis in dogs, the genetic implications for breeding stock should be of utmost importance to all responsible breeders.

With respect to testing Dr. Dodds pointed out several factors that are important in producing an accurate diagnosis. The recommended basic panel includes Total T4, Total T3, Free T4, Free T3, T3 Autoantibody (T3AA) and T4 Autoantibody (T4AA). Additionally, cTSH and TgAA provide a full panel that is most useful in accurate diagnosis.

Total T4 and T3 by themselves are not reliable. This will lead to overdiagnosis of hypothyroidism in dogs. It is critical to also have free T3 and free T4. These are less likely to be influenced by drugs or other illness not related to the thyroid. The test for cTSH, when measured as part of a total panel can be a useful addition for proper diagnosis. However, recent experiences with this test indicate about a 20 to 35% error factor that must be taken into consideration. It would not be wise to rely on this test as the sole or major basis for interpreting thyroid function.

The TgAA test can permit early recognition of thyroid disorder. However, it will give **false negative** results if the dog has received thyroid supplement within the previous 90 days. Furthermore, **false positive** results may be obtained if the dog has been vaccinated within the previous 30 to 45 days.

She recommends that we should all test our dogs early to establish a baseline thyroid profile. Then by regular follow up tests, deviations would be more obvious. This would remove much of the guesswork for each animal. Although the "normal" reference ranges for thyroid tend to be similar for most breeds there are exceptions. The sighthound and giant breeds have lower basal levels. Similarly, because young animals are still growing and adolescents are maturing, optimal thyroid levels are expected to be in the upper half of the references range. Toy breeds are more like the young animals (high end of range) because of their higher metabolism. For geriatric animals, basal metabolism is usually slowing down, and so optimal levels are likely to be closer to midrange or even slightly lower. Of particular importance in the baseline thyroid profile, are the assays for thyroid AA.

Today an estimated 80% of cases of canine hypothyroidism result from autoimmune (lymphocytic) thyroiditis. The heritable basis of this disorder means that affected animals **should not be used for breeding!** Dr. Dodds has compiled and analyzed 723 canine cases of autoimmune thyroiditis between January 1995 and January 1997. Purebreds made up 97% of this group (63 different breeds) and both sexes were equally represented. Ages ranged from 2.6 to 7 with the average being 4.4 years. The ten breeds most affected were the Golden Retriever (144 cases), Shetland Sheepdog (91), American Cocker Spaniel (47), Labrador Retriever (31), Boxer (31), Doberman Pinscher (27), German Shepherd (16), Akita (14), Old English Sheepdog (11), and Irish Setter (10).

The list of clinical signs of canine hypothyroidism is extensive and includes alterations in cellular metabolism, neuromuscular problems, dermatologic diseases, reproductive disorders, cardiac abnormalities, gastrointestinal disorders, hematologic disorders (including bone marrow failure), ocular diseases, etc.

In addition, you may be surprised to learn that **aberrant behavior** can be directly associated with thyroid dysfunction! The sudden or progressive onset of aberrant behavior including aggression, submissiveness, shyness, fearfulness, passivity, **seizure disorder,** excitability, sensitivity to noise, anxiety, irritability, compulsivness, chewing, moodiness, lethargy, depression, and unstable temperament, may have an underlying thyroid problem as a basic cause.

In a case study of 319 dogs with aberrant behavior, compiled by Dr. Dodds in collaboration with doctors in Tufts University of Veterinary Medicine, a direct correlation to thyroid dysfunction was confirmed in about 2/3 of the cases. Results of treatment with thyroid supplement far exceeded attempts at behavior modification by standard training methods. For example, in the study of 95 dogs with dominant aggression, 58 showed improvement by 75% or more compared to only 3% utilizing behavior modification methods.

Thyroid testing for genetic screening purposes is less likely to be meaningful before puberty. Screening is initiated, therefore, once healthy dogs and bitches have reached sexual maturity (between 10 to 14 months in males and during the first anestrous period for females following their maiden heat.)

In speaking of the increased frequency of autoimmune or immune-mediated diseases, she pointed out that causality involves dynamic interaction between diet, nutritional status, the environment and genetic susceptibility.

"Nutrition is a key for resistance to disease!" I'm sure for many for the newcomers in the audience, her comments on the importance of bio-available vitamins and minerals (i.e. zinc, selenium, vitamin C, E, B6 etc.) and fresh food diets, will cause them to reexamine the "bagged" nutrition concepts they were used to.

In the dog, immune-mediated syndrome often targets the blood cells (autoimmune hemolytic anemia--AHIA, and immune thrombocytopenia--ITP) and can be associated with bone marrow failure. No doubt she shocked a few people when she spoke of the direct correlation of severe autoimmune hemolytic anemia, liver disease and vaccinations! Her studies reveal a very clear association in susceptible animals. As if that wasn't enough, she also pointed out a similar correlation with the flea PROGRAM pill.

She mentioned studies in vaccinating mice with canine vaccines, produced degeneration of thyroid after 4 weeks from injection.

She reported that vaccines are presently grown in bovine fetal tissue. They are trying now to grow them in canine serum to reduce the side effects and to decrease the trigger effect for autoimmune disease.

As we have previously published many of her cautions regarding vaccination, I won't go into great detail in this issue. I was pleased that she pointed out that in testing for titers, remember that any measurable titer will signify that immune memory exists. Of course this is only a measurement of humoral immunity, and gives no indication of the health of the cell-mediated system.

It was interesting to see that her notes on treatment for immune-mediated hematologic disease (ex. Autoimmune hemolytic anemia) covered both allopathic and holistic alternatives. The primary goal of allopathic treatment is to interrupt the immune destructive process with suppressive drugs. The holistic approach, rather than suppress the immune system with corticosteroids, seeks alternative means of down-regulating the cytokines that trigger cell-mediated immunity.

Some clinicians use biologically active glandulars such as multiple glandular supplements. Some method of stabilizing or enhancing thyroid or pituitary-thyroid function, is an essential component of successful treatment. Detoxification pathways should be bolstered. Antioxidants including vitamins A, C, D, and E, selenium, bioflavonoids and homeopathics are used as bio-support to strengthen the patient's metabolism and immune system.

Perhaps as important as the nutritional and other supplemental support for these patients is the need to avoid or minimize, toxic exposures, vaccination boosters, preventative chemicals for heartworm, fleas, etc.

A great seminar from a great lady!!

Ihor J. Basko, D.V.M.

Gave us a fascinating talk on mushrooms and their application in veterinary medicine. Mushrooms have been recognized for their health benefits for many centuries by many different cultures. Recently, research studies indicate that they contain polysaccharides that have anti-viral, anti-bacterial, and anti-tumor properties. Some mushrooms contain compounds that stimulate the immune system, assist healing of the liver, kidneys, and heart tissues. Of the 38,000 species in the mushroom family, only about 50 have been used worldwide for medicine. The following is a small sample of the ones Dr. Basko talked about.

- **Ganoderma lucidum (Ling zhi, Reishi)**. Contains Germanium, which increases oxygen utilization of the blood. Contains polysaccharides for anti-tumor effects (tumor-necrosis factor and enhanced natural killer cells), immuno-stimulating properties (increases macrophages and T-cell activity) and antiviral (induces interferon activity, anti-HIV, interleukins-1,-2). Also contains triterpenes that inhibit histamine release (anti-allergic), anti-hypertensive (helps deal with stress), anti-hepatoxic, liver protectant and detoxifier. Contains lysosomal enzymes that are anti-bacterial against Staph, Strep, Bacillus pneumoniae, etc.

  Other properties: enhances bone marrow proliferation, antioxident, regenerates bronchial epithelium, increases WBC, protects against ionizing radiation, analgesic and muscle relaxant.

  Most common veterinary application: used to enhance the immune systems of young sick animals with certain chronic conditions.

- **Trametes versicolor (Yun Zhi) Kawaratake.** Has two main immunologically active protein bound polysaccharides--PSK and PSP.
  PSK (Extract of mycelium)--used in animal studies, shows a broad spectrum of tumor suppression. Injected locally into the tumor, it inhibits tumor growth and prevents metastasis. It suppresses sarcomas, adenosarcoma, fibrosarcoma, mastocytoma, mammary, colon, and lung cancer. It decreases the effects of radiation, enhances results of chemotherapy, radiation and immunotherapy, and improves the results of antibiotic therapy. It is anti-viral, improves circulation, supports hepatic function, and increase interferon in cancer patients.
  PSP (Glucose molecules)--used orally or by injection. Increases phagocytes, increases T-cells, increases production of interleukin. It decreases effects of chemotherapy. It has tumor inhibiting properties for: sarcoma, lymphoma, leukemias, lung adenocarcinoma, liver and stomach cancer.

  Most common veterinary applications: Adjunct to chemotherapy for cancer; Used to treat side-effects of immune system suppression resulting from the use of drugs such as cortisone; Used to enhance antibiotic effects; and for chronic hepatitis. (6)

Susan G. Wynn, D.V.M.

Dr. Wynn expressed a cautionary note on the use of aromatherapy in veterinary practice, pointing out that the lengthy history of therapeutic use of volatile essential oils is primarily based on "human" experience and reactions. For animals, there is a lack of original research to determine how aromatherapy may best be used in veterinary medicine. Only one book published to date is devoted entirely to veterinarian aromatherapy **but** the oil mixtures and indications are derived entirely from traditional human use.

I don't think anyone would question the increased olfactory sensitivity or discrimination abilities of animals, particularly the dog, compared to humans. Although there are sufficient studies proving the physical and mental effects influenced by specific aromas, the pharmacological effects in animals is a field full of promise with little sound data on which to base repeatable conclusions.

When I take my dogs for a walk, while I may stop to "smell the roses" they prefer to head for the nearest poop pile. Obviously many of the things we find disgusting generate pleasurable, or at least interesting, aromas for animals. Does the calming aroma of lavender have the same effect on animals that it does on humans? I don't know. Perhaps some of you that have had experience with aromatherapy and animals could write me and let me know what's happening in this promising field. I sadly lack first hand experience.

One thing I found fascinating in this seminar was the practical information on "odor conditioning". I'm sure you are all familiar with the old "Pavlovian" experiment (i.e. bell rung each time dog fed. Later, ringing of bell caused dog to salivate even though no food was presented). Turns out that taste and smell are much more effective than sound or sight, particularly in animals. In the 1930's Russian psychologists discovered that taste and smell could be paired with viruses, albumin, parasites, bacterial vaccines and later elicited a **similar immune response.** In the past 15 years American researchers have been re-examining these responses. (Ed.note: imagine the potential here. If we could link say the smell of camphor with a parvo vaccine and later the aroma of camphor would elicit the same immune response as the vaccine!!).

This conditioning effect is a two-headed coin. There is also a likely possibility of an odor becoming associated with the consequences of an illness or pain. The brain appears to be "pre-wired" through evolution to associate taste with internal pain and illness. A single taste and smell of food with illness can be sufficient, even though several hours may have elapsed since eating. In effect, the last meal eaten gets the blame for the suffering, leading to a loss of appetite.

This makes evolutionary sense, since once poisoned by a food, it is better for the animal to avoid it through aversion to the odor rather than having to taste it and thus risk poisoning again. This finding would go a long way in explaining the typical loss of appetite in dogs being treated for cancer with chemotherapy drugs.

Looks like a lot of work is warranted in this field.

Jake Paul Fratkin, O.M.D.

Dr. Fratkin lectured on the "leaky gut syndrome" and treating intestinal Candidiasis and Dysbiosis using naturopathic medicines.

There are over 500 kinds of beneficial bacteria in the intestines (Lactobacillus is less than 5%). Their job is to synthesize vitamins, synthesize short chain fatty acids, degrade toxins, prevent colonization of parasites, and to benefit the immune response.

Antibiotics wipe out the good flora and make a colder environment that is more alkaline. Thus Candida grows. The job of this fungus is to suck the life out of dying things. Candida puts out chemicals that irritate the small intestine. The irritation causes cells to shrink and the gut to become susceptible to penetration.

About 80% of secretory IgA (SIgA) is in the intestinal walls. With the normal flora disrupted, pathogenic microbes populate the gut and challenge the immune system. As this part of the immune system in the gut is depleted, the leaky gut then allows toxins to enter the system.

The toxins will end up in the liver causing congestion and overload. The liver gets hot and the bile congeals and makes the problem worse. Eventually the overload is so bad that the toxins go back into the blood stream and ends up in the connective tissues. Bacteria in the bloodstream continue to attack laying the foundation for autoimmune and connective issue disorders.

The leaky gut also allows undigested foods to penetrate into the blood stream. These particles get tagged with antibodies (because they are foreign) and thereafter anytime you eat this food you get an allergic response. This acquired food allergy exacerbates and maintains a leaky gut. Food allergy testing is essential to eliminate the cycle. ELSIA testing to determine allergies is excellent (IgA, & IgE). Food elimination can be too slow.

He pointed out that once the immune system of the gut wears out, the Adrenals must rise to the occasion. Adrenal stress leads to thyroid disorder. When adrenals are low, it then goes to the pancreas for enzymes. Thus often the real problem underlying many disorders can be traced back to a leaky gut.

If a patient has had one or more courses of antibiotics, no matter how long ago, you can be assured that candida will be there until there is purposeful intervention. Steroids and hormones also increase candida. Nonsteroidal anti-inflammatory drugs (NSAID) irritate the gut even more than antibiotics. He strongly recommends giving Lactobacillus Sporogenes and fiber anytime antibiotics are given.

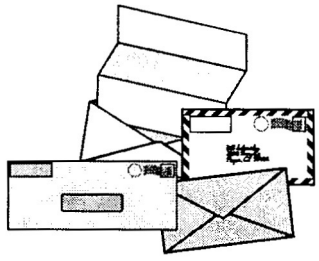
He went on to provide us with several pages of notes for naturopathic therapies to deal with this problem.

Summary

Every time I come home from the Holistic vet conference I can't help but think how wonderful it would be if these alternative modalities were part of the mandatory education requirements for the D.V.M. designation. The integration of western science and holistic medicine seems such an obvious advancement in the overall approach to veterinary health care.

Our animals can teach us many things about our environment and our place in nature's scheme of things--if, and only if, we are willing to learn what they are so desperately trying to tell us.

MAILBOX



Dateline Sept. 26, 1997 MD

Dear Marina,

We feel so fortunate to have been put in touch with you, your knowledge and your products and we never hesitate to spill the beans to others! (Although as you know not everyone is ready to listen). Nonetheless, it has been a wonderful experience for us and for our Setters to have discovered the natural rearing method and the use of homeopathic remedies for our pets. Thank you for all the hard work you take on to educate those of us ready and eager to learn.

The last time I contacted you, it was for assistance with a tapeworm infestation with one of our 9mos. old pups. I used the anti-parasite powder as instructed for a week and several days after beginning the treatment we saw her expel a load of tapeworm segments. (Not a very pretty sight). It happened so fast and unfortunately, the string-like segments broke off at some point and the remaining segments disappeared back into her anus. We continued adding the powder to her food and a few days later another batch of segments were expelled along with some thick mucus. My understanding is that the segments we saw are only part of the body, and that you really need to get the head to get rid of them. I gave her a three day break and then added it to her food again. We haven't seen any further signs of worms since then. She is gaining weight, great appetite, no irritating scratching at her hind end, etc.

I also wanted to share with you and your readers how different the two pups we kept from the litter of eight are, in

"NATURAL REARING NEWSLETTER". All contents copyrighted 1997 by AMBRICAN ENTERPRISES LTD. Nothing in this publication may be reproduced in whole or in part, in any manner whatsoever, without written permission from the publisher. Send all correspondence to:
AMBRICAN ENTERPRISES LTD., P. O. BOX 1436, Jacksonville, OR, 97530. Phone: (541) 899-2080 Fax: (541) 899-3414
E-Mail ambrican@cdsnet.net Published six times a year. Subscription rates US $19.00 per year $35.00 for two years.
Founder and Editor: Marina Zacharias General Manager: R. L. Zacharias Fulfillment Manager: Trudy Zacharias

comparison to their litter mates. Our two pups have been raised on a natural rearing diet consisting of rolled oats for breakfast and raw meat for their evening meal. We add supplements, vitamins, chopped greens, bran, wheat germ, etc. as mentioned in your natural diet instructions. They also get bones several times a week, a half-day fast weekly, and plenty of fresh spring water, exercise and access to nature's landscape. It has been a pleasure for us to watch as they thoroughly enjoy themselves in all aspects of life from their great appetites to their endurance and agility in the fields.

We have had the opportunity to visit with five of the other littermates quite recently, and although they are seemingly happy, they do not have the image of health radiating from our pups. What I have noticed is that the other pups have thinner coats, their loins and muscle tone are not as nicely developed, their eyes are not as dark, their nails tend to splinter when being clipped, and several of them have had to endure various flea and parasite treatments which we would never consider.

I am convinced that the different environments in which they are being raised is a strong factor. Although we have encouraged all the families to follow the same diet, they are not. It may sound like a lot of extra work and expense, however, when you can see the results so clearly I say there is no effort that should be spared. Our pets deserve the best that we can provide and we look forward to continuing to follow the NR method and enjoying the benefits of healthy dogs.

Well said!! Once you have experienced the obvious difference that natural rearing provides, you know that the rewards far exceed the effort. If you consider the lack of vet bills over the lifetime of the dogs, the "expense" of natural rearing is a bargain! Of course, NR dogs usually live longer so what price can you put on the added time given us to enjoy our companions?

Dateline Aug. 5, 1997 British Columbia, Canada

Dear Marina,

I just wanted to update you on our dog and send along my sincere thanks.

As you know, our dog joined our family at just over a year old. A few weeks later we took him to be neutered and have his shots, including the rabies shot. About three weeks later we started to notice his coat turning dull and coarse, and he began to lose the fur around his eyes.

We eventually got his coat back to normal but worse than that was he started throwing what I can only describe as fits. If you tried hugging this dog, it was like hugging a whirlwind. His body seemed to be going in ten different directions at once. You never knew from one minute to the next how he would react to any given situation. He is an energetic, obedient, loving dog and I never could see this as being a behavior problem. He simply had no control over himself.

For a year and a half I lived with the guilt that I had done this to him. I was sure there was a connection with the shots, surgery or combination. I have been using natural remedies on my animals for ten years and was sure that somewhere there was something that could help him.

On searching for information on vaccinations and side effects, I was lucky enough to be given one of your newsletters. On contacting you and discussing the problem, I put him on a series of remedies that you sent me.

He has been taking the remedies over the course of the summer. The first thing that happened was that his coat again went dull and he again lost fur around his eyes. I took this as a hopeful sign that his body was eliminating something.

His coat is now coming back, but the really exciting news is that the fits have stopped! He is still the same fun loving energetic dog, but I can now talk to him, brush him, play with him, without having 60 lbs. of dog throwing himself around uncontrollably. The most wonderful thing of all is I can now hug my dog.

I want to send you my sincere thanks for all your help. I would also like to thank you for your newsletter. I look forward to each one as they are always packed with useful, common sense information.

All too often vets combine surgery and vaccinations. This stressful one-two punch can overwhelm the normal balance of the system and result in all kinds of strange reactions. The strongly held "belief" that vaccinations are harmless and safe to give any old time, is an issue I have been fighting for many years. Thank goodness that in this case, the dog responded to detox protocol and immune system enhancement.

Well that's about it for another issue gang. I do want to take this opportunity to wish you and yours the very best for the Christmas holidays. Around our place this is a very special time for reflection of many things.

Here are a few "things we can learn from a dog":

- Allow the experience of fresh air and the wind in your face to be pure ecstasy.
- When loved ones come home, always run to greet them.
- When it's in your best interest, practice obedience.
- Run, romp and play daily.
- Be loyal.
- Never pretend to be something you're not.
- If what you want lies buried, dig until you find it.
- Delight in the simple joys of a long walk.
- When someone is having a bad day, be silent, sit close by and nuzzle him or her gently.

'Till next time, take care out there.

MARINA ZACHARIAS **AMBRICAN ENTERPRISES LTD.**
P.O.BOX 1436
JACKSONVILLE, OR 97530
PH. (503) 899-2080
FAX (503) 899-3414
e-mail: ambrican@cdsnet.net

NR Breeders Directory—1998 Edition

The rapid growth of interest during the last few years in holistic health care for our animals has been unprecedented. Once again we will be publishing the "Natural Rearing Breeders Directory", 1998 Edition. This is a reference guide for holistic Veterinarians, breeders, puppy buyers etc. to help network the many people interested in those special breeders that have gone the extra mile and have chosen to incorporate natural health care methods for their animals.

A copy of the publication will be sent to all participants and all holistic veterinarians in the USA. In addition, the 1998 edition will be published on the Internet (at no extra charge) which should greatly increase the exposure for all concerned. Enclosed is an application form and I would urge you to return it to me as soon as possible. Please help share your first hand knowledge with other caring animal owners.

The response to our previous editions has been extremely well received and has been given excellent veterinarian support. The Holistic Veterinarian Medical Association is anxious for us to keep this directory ongoing. **WE NEED YOUR SUPPORT!!** We are sure that with each coming year this Directory will be the foundation and standard for those who want a healthy animal!

Marina Zacharias

DEADLINE: Must be received by January 15th, 1998

NR BREEDERS' DIRECTORY

NAME_____
ADDRESS_____
_____
TEL ( )_____ FAX ( )_____
E-MAIL_____

BREED(S):_____
HOW LONG:_____
ACTIVITIES: Confirmation_____ Obedience_____ Field_____ Other_____

Fill in the most appropriate:

_____ 100% raw food diet _____ 100% cooked diet
_____ ½ raw / cooked food & ½ naturally preserved commercial food
_____ feed majority naturally preserved commercial food with supplements

When dealing with health problems:
_____ Holistic methods (i.e. homeopathy; herbs; glandulars; etc.) are predominately used. (conventional only when appropriate)
_____ A good mixture of holistic and conventional treatments are utilized.
_____ Primarily conventional treatments are used, but are in the process of learning about holistic treatments.

With the exception of Rabies shots when required by law:
_____ Vaccinate only with homeopathic nosodes
_____ Vaccinate only with killed vaccines (when available) using a slower modified schedule up to approximately 12 to 18 months of age, then use nosodes.
_____ Vaccinate only with killed vaccines (when available) using a slower modified schedule up to approximately 12 to 18 months of age, but do not give yearly boosters
_____ If last two boxes are checked please answer the following:
I would be willing to use only nosodes on an animal if requested by a buyer
_____yes _____ no
_____ Other comments regarding viral protection regimen: (use back if necessary)
_____

Please mail & make checks payable to:

NR BREEDERS' DIRECTORY
C/O MARINA ZACHARIAS
P.O. BOX 1436,
JACKSONVILLE, OR 97530

_____ ENCLOSED IS MY ANNUAL FEE OF $15.00 U.S. (or $20.50 Cnd.) FOR LISTING IN THE NR BREEDERS' DIRECTORY & A COPY WHICH WILL BE SHIPPED IMMEDIATELY UPON PRINTING.

For further inquiries please call (541) 899-2080 or Fax (541) 899-3414 e-mail: ambrican@cdsnet.net